CHANGE MANAGEMENT PLAN

General Procedures
Change Management is a critical element of the Level 3 Team's operational methodology as nothing happens in our network without going through our collaborative Change Management process. Within our organization, we have a separate group dedicated to quality and compliance and our commitment to a robust change management process. Level 3 will adequately assess changes from both a business and a technical viewpoint with a clear understanding of the business needs of DIR and its customers.

Theresa Gray will serve as Level 3's assigned DIR Change Manager will attend all relevant change management related meetings including weekly conference calls; voice and document concerns of potential negative impact of proposed changes; make recommendations for implementation, further analysis, or deferment; and be available for consultation should an emergency Request for Change (RFC) be submitted.

NAME	LEVEL 3 TITLE	SERVICE DELIVERY FUNCTION	PHONE NUMBERS	EMAIL ADDRESS
Sales Team				
Rob Nussbaum	Account Director	Customer Relationship Manager	O: (512) 742-3962 C: (720) 567-1546	Rob.Nussbaum@Level3.com
Marty Weidenbach	Enterprise Account Director	Customer Relationship Manager II	O: (512) 742-2518 C: (512) 585-4406	Marty.Weidenbach@Level3.com
Customer Support Team				
Theresa Gray	Customer Care Manager	Program Manager	O: (512) 742-1208 C: (512) 422-4537	Theresa.Gray@Level3.com
Sales Engineering Team				
Pat Shanahan	Technical Service Manager	Post Sales Engineer	O: (312) 895-8262 C: (630) 258-3755	Patrick.Shanahan@Level3.com
Jim Guenther	Director, Sales Engineers	Region Sales Engineering Director	O: (312) 895-8136 C: (630) 461-6165	James.Guenther@Level3.com

Request for Change Notification
Level 3 will provide a Request for Change (RFC) notice to DIR as seen below.

Level 3 notifications for Service Affecting (SA) and Potentially Service Affecting High-Risk (PSA-High) events 10 days in advance of the activity, however, unscheduled maintenance activities, (i.e., those activities deemed necessary to prevent or restore network failure) may occur at any time. In the event that the scheduled maintenance is canceled or delayed for any reason, Level 3 will immediately notify those impacted. The scheduling and notification process will be repeated to reschedule any delayed activity.

Notification SLAs for Network Maintenance
Level 3 aligned its maintenance notification lead time for service affecting maintenance to be consistent with the notification periods for DIR, which is 10 business days.

Network Maintenance	Customer Notification SLA (Does not include internal processing time)
Service Affecting	10 Business Days
Potentially Service Affecting (Activity with an expected impact of 50 ms or less) 10 Business Days	

Non Service Affecting	No notice

The Level 3 notification will contain:
- The Level 3 Vendor Name, if applicable
- Request Title
- Requestor Name
- Request Date
- Group Process Owner
- Type of Change
- Change Priority
- Change Category
- Change Request Description
- Processes Impacted (includes systems and circuits, as soon as known)
- Internal Groups Impacted
- External Groups Impacted
- Expected Implementation Date
- Contributors
- Participants
- Any Apps/Systems Affected
- Reports Affected
- Training Required
- Comments
- Assigned to
- Change Request Approval Date
- Change Request Implementation Date
- Change Request Implementation Time
- Proposed change duration
- Back out procedures
- Change Request Communication Date
- Change Request Complete Date
- Process Operator
- Alert or Bulletin Web Site
- Contact Name
- Contact Phone
- Contact Email

Change Management Windows
Maintenance Windows are defined for the local time of area of the network impacted. This is the only time in which each particular classification of maintenance is allowed to occur. Rare exceptions may occur depending on local municipality regulations, e.g., those related to the trenching of roads, hand-hole conduit work, etc.   If multiple regions or time zones are impacted, the eastern-most regional time zone determines the start of the maintenance window.   DIR may request that Changes be made outside of standard change windows on an individual case basis (ICB).

Daily Maintenance Windows

Classification	Local Time
Service Affecting (SA)	00:01 – 06:00
Potentially Service Affecting High-Risk (PSA-High)	00:01 – 06:00
Potentially Service Affecting Low-Risk (PSA-Low)	00:01 – 06:00

Classification	Local Time
Non-Service Affecting (NSA)	Not Required

Customer Collaboration – Level 3 understands that RFCs will be reviewed by DIR's Change Management Board (CMB). DIR may request a delay on any RFC for the following reasons:

- Risk is too high
- Change does not make business sense
- Resources are not available
- Not enough information to support the change; and/or
- Scheduling conflicts

In the event that Level 3 needs to perform unscheduled emergency maintenance that impacts DIR or its Customers, Level 3 will provide DIR with an (After Action Report) AAR (even if the change was successful). In addition, Level 3 will provide a follow up RFC and document the change in the Change/Release Management Report.

Change Management Reports
Level 3 has an advisory process for operational activity changes that is driven by a Global Change Review (GCR) – a forum for all possible affected parties to discuss changes. The GCR is comprised of cross-functional experts from various Level 3 organizations. The GCR is charged with ensuring that only those changes are implemented that will cause no negative impact to the overall system. Level 3 will provide a Change/Release Management report to the DIR on a regular basis as requested. This report will include a Forward Schedule of Changes as well as maintain a history of changes that were proposed, scheduled and completed or abandoned with a description of the results.

In addition to the Change/Release Management Report, The GCR website, available to the Level 3 Account Team for the DIR, provides standard reports which can be provided to the DIR during the monthly or quarterly Stewardship Meetings help by the Account Team. There are a variety of reports available for downloading. Reports are aligned within services which include the following:

- IP Maintenance
- Transport Maintenance
- Switch Maintenance
- Power/HVAC Maintenance
- Peering Maintenance
- Additional Report

Report Examples:

Completed IP Maintenances (7/01/2009 - 7/30/2010)
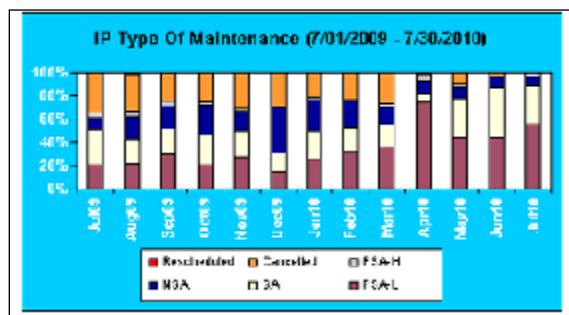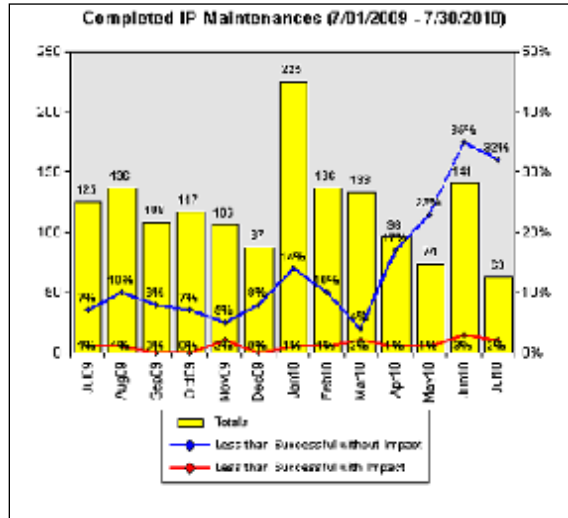
Change ID	Type	Classification	Closure Code	Closure Code Detail	Clarify #	Planned Cust. Outage	Planned Outage Duration	Extended Cust. Impact(hrs)
CHG000000235759	IP Core/Edge	PSA-H	Rescheduled	NA Tier 3 request	3411857	No	0	0
CHG000000235899	IP Core/Edge	SA	Implemented as Planned		3422284	Yes	0.25	0
CHG000000236428	IP Core/Edge	SA	Cancelled	Customer Notification Issue	3426513	Yes	0.08	0
CHG000000236429	IP Core/Edge	SA	Cancelled	Customer Notification Issue	3426536	Yes	0.08	0

Equivalent Event Mapping

DIR		Level 3
Emergency (same day) Causing loss of service or severe usability problems to a large number of users, a mission-critical system, or some equally serious problem. Immediate action required.	Major: Involves potential impact on the highest percentage of users. The Change may be new technology or a configuration Change that will likely cause Downtime of the network or a Service. These changes shall be kept to a minimum.	Service Affecting (SA): Service Affecting changes directly impact the service of Level 3 customers. All external customers impacted by SA maintenance activity shall be notified in advance.
High (next window): Severely affecting some users or having an impact upon a large number of users. To be given priority for change building, testing and implementation resources on the immediate next scheduled Change window.	Significant: Affects a high percentage of users. The Change is a nonstandard Change that may involve Downtime of the network or a Service.	Potentially Service Affecting High-Risk (PSA-High): PSA-H changes have a high potential of impacting the service of Level 3 customers, even if no impact is expected. These changes are often more complex in nature and thus incur more risk to the environment. External customers impacted by PSA-H maintenance activity shall

DIR		Level 3
		be notified in advance (these customers are identified by the Service Management Center).
Medium (future window): No severe impact, but remediation of the incident must be addressed during a Change window in the near future.	Minor: Affects a smaller percentage of users and risk is less because of the organization's experience level with the proposed Change. It differs from a routine Change in that although the risk is low, the Change may not have been performed before or is rarely performed.	Potentially Service Affecting Low-Risk (PSA-Low): PSA-L changes have a low potential of impacting the service of Level 3 customers, even if no impact is expected. These changes are generally less complex in nature and incur less risk to the environment. No external customers are notified.
Low (routine): A Change is justified and necessary, but can wait until resources can be allocated and scheduled accordingly.	Routine: Affects the smallest percentage with minimal or no impact/risk to users and has a set release process where tasks are well known and proven.	Non-Service Affecting (NSA): Any change that has absolutely no possibility of impacting the service of Level 3 customers is considered NSA. This is a very limited scope of work and is often considered standard operating procedure. No external customers are notified of NSA activity.

Change Management After Action Reports
If a Change Management caused an outage or impacted DIR or a DIR Customer, Level 3 will provide a Reason for Outage Report.

Level 3 provides a verbal report for every fault with information of cause, duration and treatment of outage immediately after each fault is resolved. A written formal report in the form of a Reason for Outage (RFO) report is provided within 72 hours. This report will be provided in Word format and will contain the data elements requested by DIR.
During fault situations the Level 3 NOC normally will report status of failure by phone call; however, if DIR requires an e-mail, Level 3 will provide.

Sample Level 3 RFO Report

Customer Information
Customer Company Name: XYZ Company
Customer Contact Information: Contact Information
Customer Location: Customer Address
Original Ticket Number(s): Ticket number
Customer Reference: Customer ticket number

Event Summaries
Outage location: Location
 Level 3 PSCID: BRLNCAKL-SNJSCA74-00001
Ticket Create Date and Time: 12/31/2005 12:23 GMT
Service Restore Date and Time: 12/31/2005 13:45 GMT
Total Duration: 1 Hour, 22 Minutes

Event Description:

Customer called in to report this DS1 down hard on 12/31/05. At 12:23 GMT, Level 3 TSC Technician created Customer Trouble. TSC Technician checked the circuit and found that we were seeing Unframed All Ones, facing the LEC and Customer Premise in Burlingame, CA. TSC Technician attempted to loop the NIU, but could not.

A ticket was opened with the LEC at 13:00 GMT. The LEC then reported that the Unframed All Ones were reporting from the Customer Premise. They were able to loop and run clean to the NIU. TSC Technician tested the circuit with the LEC and was also able to run clean to the NIU loop. Customer was then informed that the issue had been isolated to the Customer Premise.

Root Cause Analysis
Level 3 TSC Technician found that we were seeing this DS-1 down hard facing the LEC and Customer Premise in Burlingame. TSC Technician then opened a ticket with our Single Vendor LEC. The Single Vendor LEC isolated the issue to a Type II LEC and opened a ticket with them for dispatch to the Customer Premise. Once technicians were dispatched and testing was completed, it was determined that inclement weather had caused damage to an F1 cable pair. This damaged F1 pair was then replaced, restoring service.

Identification:
Inclement weather caused damage to an F1 cable pair at the Customer Premise in Burlingame, CA. This damaged F1 pair was replaced to restore service.

Repair
Actions:
Damaged F1 cable pair, at the Customer Premise in Burlingame, CA, was replaced by the Type II LEC.

Future Preventive Actions
SIP Information:
Level 3 TSC Technician will discuss this event with our LEC during our monthly Carrier Service Review. TSC Technician will continue following our escalation process with our LECs. The importance of hourly escalations and updates has been addressed with specific individuals and will also be discussed with TSC Technician during our weekly team meetings.

TSC Technician Name: John L. Doe

Proposed After Action Report Template

After Action Report

Brief Incident Title					
Day, Date, Time					
Customers					
Affected Circuits, Sites, Devices, and/or Services					
Impact					
Problem Description					
Duration					
Root Cause					
Incident/ Problem Resolution					
Causes of any delays in resolution					
Action Plan					
Other Notes					
Help Desk Tickets	DIR NOC	Provider 1	Provider 2	Provider 3	Provider 4

Event Chronology		
MM/DD	Time	Actions and escalations, if applicable